A

Pocket Companion

FOR

HARROWGATE SPAW,

OR,

A particular Account of the ſeveral MEDICINAL SPRINGS at, or near that Place.

SHEWING

Their different NATURE and USES towards reſtoring HEALTH and STRENGTH.

WITH

DIRECTIONS how to Uſe the WATERS with Advantage.

Publiſh'd originally by J. FRENCH, M. D.

AND

Now revis'd by One who has received great Benefit by uſing the WATERS.

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Advertiſement

TO THE

READER.

IF I had followed the advice of my friends, inſtead of the following tract, I ſhould have preſented the public with a particular account of my own experience under a tedious illneſs, or complication of diſorders, which in ſome particulars was uncommon, and now being reſtored to a better ſtate of health and ſtrength, they urg'd that ſuch an account might be of uſe to others, groaning under the like afflictions, by pointing out what I had found to be of ſervice to me, and from my experience, give them ground to hope that they might alſo recover.

How

Advertisement, &c.

How far a complete recovery, and a less hurry in business, may incline me to answer their persuasions, time will shew. However, having in the course of my illness, amongst other means, made use of *Harrowgate Spaw*, I found great benefit from it; but while there, observing that many, through want of knowledge, and proper management of themselves, did not receive the benefit I did, I thought the following treatise might be of use; it has been so to me, and that it may be to others, is the sincere wish of

Yours, &c.

BRADFORD,
April 14, 1760.

J. WOOD.

TO THE

READER.

READER,

I Being the laſt year commanded by my occaſions down to the Spaw in *Yorkſhire*, was deſirous to improve my time in applying my ſelf to experiment, and obſervation: to the one for the diſcovery of the true cauſes of thoſe famous Medicinal Waters of *Knaresbrough*; to the other, to be convinced what real effects they wrought upon the drinkers thereof. And this I had leaſure, beyond expectation, to do, being prevented from my intended, and ſpeedier return, by reaſon of the then Northern diſtractions. Now my experience herein I do freely and faithfully preſent to the world a public account of; as for a more full ſatisfaction of thoſe of mine own profeſſion, (eſpecially ſome worthy

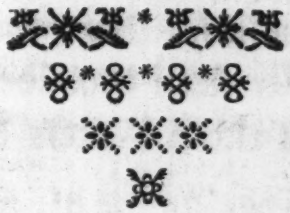
Doctors in the South, who first excited me hereto); so also for the better direction, and greater success of those that shall make use of those Waters.

In my observation I perceived that these Waters, although very effectual in themselves, yet many times proved the contrary, and that by reason, first of a want of a due preparation; secondly of intemperance in diet; thirdly of a prejudice against the use of all manner of Physic in the taking thereof, which should promote the full operations of them, and prevent the symptoms, which are oftentimes occasioned by them; fourthly by reason of mistaking the proper Water; and lastly by not observing a just proportion suitable to the constitutions and maladies. Now for the prevention of whatsoever shall occasion the ineffectual operation of those Waters I have published these few lines, which are made up, not of obscure, dark, and such as the vulgar might not understand, but of words plain and as clear as the glasses themselves wherein the Waters are drunk, that every one may see what it is he drinks, clearly seeing therein the true causes, virtues and use of them. I

I do not desire that any should adhere to my judgment herein any further, than they see it consonant to reason; for to that, as also to the candid censure of the learned Doctors of *Yorkshire*, long experienced in these Waters, and to all other, who shall rationally, and civily convince me wherein I have erred, I subject it. Reader, approve of me according as herein thou findest me.

Thy Friend

J. F.



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THE

YORKSHIRE SPAW, &c.

CHAP. I.

The Place, together with the Nature of the ſame, where four famous Medicinal Springs are diſcovered in YORKSHIRE.

ABOUT fourteen miles from *York* ſouthweſt, is ſituated the ancient town of *Knareſbrough*, formerly famous for the invincible Caſtle thereof built upon a craggy rock, but now remarkable for four famous Medicinal Springs, which in theſe latter years have been diſcovered near the ſame; the names of which are, *viz.* The *Dropping*, or *Petrifying Well*, the *Sulphur*, or *Stinking Well*, the *Spaw*, and St. *Mugnus Well*. In naming only four, I ſpeak as to the ſpecies, or kinds of them, but Dr. *Deane* in his treatiſe of the ſaid Waters mentions five, which in effect are but three, for he ſpeaks as to the individuals, and names three Sulphur Wells, which indeed differ not at all, the one from the other, and if at all, yet only gradually; and with-

all

all he rejects St. *Mugnus* as an ineffectual superstitious relique of Popery, which notwithstanding, because it hath of late regained its reputation (as I shall afterwards declare) which it had lost in the account of some, I think worthy of a place amongst the four famous Wells of *Knaresbrough*.

The nature of that country, especially southwest is very rocky, yet moorish, and heathy, consisting of an unctuous bituminous earth, which the country people cut at a certain time of the year, making turf and peat thereof, which being dried make good fuel. In that place are found several sorts of Earth, Stones, Minerals, and veins of Metals. Dr. *Dean* observed white, and yellow Marle, Plaister, Oker, Rud, Rubrick, Free-Stone, hard Greet-Stone (which broken in the middle doth oftentimes very much resemble loaf-sugar) a soft Reddish-Stone, Iron-Stone, Brimstone, Vitriol, Nitre, Allum, Lead, Copper, and divers mixtures of these; to which I shall add Alabaster, and a glittering sand which yields some Gold: and certainly many more than these might be discovered, if the experienced Artist would make a diligent search.

CHAP. II.

Of the Spaw Well near Knaresbrough.

About a mile and a half from the said town of *Knaresbrough* westward, in a moorish, boggy ground, (within less than half a mile from which there is no considerable ascent) ariseth a Spring

a Spring of a Vitrioline taſte and odour, reſembling much thoſe ultramarine Spaws. The Water of this fountain ſpringeth directly up from the ſandy bottom; and this is no otherwiſe than that water doth, which paſſing through pipes in the earth (ſerving for the conveying of water, from a fountain to a houſe or town) doth break the pipes if they be obſtructed, or force it ſelf through them if already broken, upwards through the ſuperfices of the earth, and flows in the manner of a ſpring. For in this place the ſubterraneal veins, through which the Water paſſeth, are either (if not there terminated) obſtructed, or too infirm to contain the Water of the Spring, paſſing forcibly through them, and making a vent where it can.

Now for the better underſtanding of the nature of this Spaw, I made divers experiments thereof, which are theſe.

1. I diſtilled it, ſuppoſing that if I could draw off the mineral ſpirits by themſelves, I ſhould diſcover a great ſecret, very advantageous for diſeaſed people, but the Water, yea the two firſt ſpoonfuls, which were diſtilled, and the reſt undiſtilled that remained, utterly loſt both the taſte and odour which they had before, neither would they become any otherwiſe tinged with galls than common ſpring-water, although the Water undiſtilled with the mixture of the powder of galls, became as red as a well coloured claret wine. Now it is hard to conceive the true reaſon of this, eſpecially ſince I diſtilled it in a glaſs ſtill, and luted

luted or clofed up very carefully the joints thereof, fo that fpirit of wine could not evaporate out thereat. I impute it to the fubtlety of thofe fpirits, which are fo volatile that they are fooner fublimed than the Water it felf, therefore becoming to be unbodied (for before they were incorporated with the Water) and by confequence wonderful fpiritual, penetrate even the glafs it felf, or the lute, and I believe that neither glafs or lute can hold them.

2. I took two viol glaffes, and put into them a juft equal quantity of the Spaw Water; I put one of them into a fkillet of warm water, and juft took the cold off from it, then I put an equal quantity of the powder of galls into each of thofe two viols, and that Water which was cold received no deeper tincture than the other as I could perceive.

3. I filled two viol glaffes with this Water, and ftopt one of them very clofe with wax, and the other I ftopt not at all, and at two days end they yielded a tincture with the powder of galls, little lefs than that which is newly taken out of the well, but that lefs which was left unftopt. How much it will lofe this tincture by carrying far, I do not know; it were worth while to try, and thereby to be the better affured how much of its ftrength is wafted, for according to the fpending of its fpirits the tincture fades.

4. A glafs

4. A glaſs of this Water ſtood ſeven days cloſe ſtopt up with wax, and then yielded a tincture with gall, like ſmall beer.

5. THIS Water doth not coagulate milk as do the *German* Spaws, and another Vitrioline Spring in the ſame moor, which yieldeth a Vitriol of Iron upon evaporation, as I ſaid before. Now the reaſon of this is not becauſe it is not acid enough, for it is far more acid than the Water of the dropping Well, which coagulates milk, if it be boiled with it, but becauſe the acidity thereof is not permanent, or fixed enough, but ſo volatile as to evaporate before the milk boils.

6. THIS Water kills worms and frogs, if they be put therein, and ſuch kind of creatures as theſe.

7. IT being evaporated, leaves nothing at all of Vitriol behind, but only an inſipid powder of a darkiſh colour, like unto which powder will that blueiſh cream or ſkin, which ſwims upon the ſaid Water after long ſtanding, be when it is dried. Now note, that the aforeſaid ſkin ſwimmeth upon all ſuch mineral waters, and, as ſaith *H.* ab *Heers*, being put upon the fire is inflamed, and yields a ſulphurous odour. It is alſo called by *Hadrianus Mynſicht*, *Anima Vitrioli*.

8. I weighed this Water, I think, exactly to a a grain, and it weighed neither heavier nor lighter than ſimple ſpring water.

9. It is obſerved generally, and I took eſpecial notice of it, that it is almoſt an infallible ſign of enſuing rain, when glaſſes fill'd with this Water continue not clear, but are covered all over as it were with a miſt, contrary to what is obſerved in glaſſes full of ſimple common water. Now the reaſon of this I conceive is from the mineral ſubtile ſpirits giving, as Nitre doth, activity to the coldneſs of the Water, whereby the glaſſes themſelves become more cold, and ſo cold as eminently, and apparently to condenſe the humid vapours of the air, with which it abounded before the rain.

To theſe experiments, and obſervations, I ſhall add this obſervation alſo, *viz.* that this Spaw Water is ſtrongeſt, *viz.* with the mineral ſpirits in winters froſt, by reaſon of the earth being the more bound up, and the ſaid ſpirits being thereby kept from perſpiration: and weakeſt in rainy, wet weather, by reaſon the water ſinks into the veins of the ſprings, *viz.* thoſe that lie neareſt to the ſuperfices of the earth, for it cannot ſink above ten feet deep though the rain be never ſo much. Alſo this Water is in ſummer time ſtronger in the morning than at noon, becauſe the coldneſs of the night doth ſomewhat bind the earth, and the heat of the ſun openeth the ſame, thereby making it the more eaſy for the mineral ſpirits to evaporate out thereby.

To prevent the inconveniencies of rain, it were to be wiſhed that there were a very deep trench

(yet

(yet not ſo deep as to cut aſunder any of the veins through which the Water paſſeth, if any ſhould lie within ſix, eight, or ten feet of the ſuperficies of the earth, as it is poſſible ſome may) made round the well, and bridges made over ſome places of the ſame, for as by this means the rain would be carried away, ſo alſo the water in the boggy ground adjoining to it, which may perhaps ſink into the veins of the ſpring and corrupt the ſame, would be drained away, and the well by this means much improved, for the ground about it is ſpungeous, and drinks in water apace, the uppermoſt part thereof to the depth of a foot, conſiſting of that hollow earth of which is made peat and turf, and that beneath it being ſandy, and alſo hollow.

CHAP. III.

Of the virtues of the Spaw Well, to whom, and in what caſes profitable, or hurtful.

I SHALL not ſtand here to reckon up all, and the ſeveral vertues of Vitriol, as not properly conducing to our preſent purpoſe, becauſe the variety of its operations depend upon the variety of the forms, in which it is adminiſtered, or uſed; for the ſalt thereof hath one operation, the *Colcothar* another, the corroſive ſpirit another, and that ſubtile acid penetrating ſpirit, (which *Theophraſtus* calls his great ſecret, or *Arcanum*, againſt the

the Epilepſy, and other ſuch ſymptoms, becauſe of its wonderful penetrativeneſs, leaving no part or places of the body unſearched) another, and with this hath the ſpirit of the Spaw Water great affinity, and is therefore ſo much the more excellent, as being ſo much the nearer to it, *Primum ens*, as *Helmont* calls it. Now note by the way, that although this ſpirit cannot be by itſelf extracted out of this Water, yet it may be extracted out of Vitriol, yet by a very expert artiſt.

THIS Water, according to its firſt qualities, cools and moiſtens actually, heats and dries potentially. And by theſe four qualities, the diſtempers of the body, conſiſting in the exceſs either of heat, cold, drineſs, or moiſture, are tempered, every quality altering its contrary, and reducing it into its natural temper. And indeed it is worth taking notice of, that in ſuch caſes a diſtemper will rather be altered by its contrary, than increaſed by its like. As for example, if the diſtemper conſiſts in heat, the heat will be allayed by the coldneſs of the Water, and not be made more intenſe by the heat thereof (although the heat continue longer than the coldneſs, for the Water is quickly warmed in the ſtomach, and then the potential heat is reduced into act, and continues) and ſo on the contrary, I mean if the Water be taken regularly, and cautiouſly, or otherwiſe ſuch happy ſucceſs may not be expected.

NOW according to other qualities, *viz.* ſecond, and third, it cuts, diſſolves, attenuates, abſtergeth

geth viſcous, tartarous humours in the ſtomach, meſſenterie, hypochondries, reins, bladder, &c. and evacuateth them by urine, as being indeed very diuretical, and by conſequence opens the obſtructions of the ſaid parts, which are the occaſions of moſt diſtempers, and diſeaſes. It penetrates alſo through every narrow, occult paſſages of the body, where other medicines cannot come. Moreover it corroborates, aſtringeth, and laxateth, and divers ſuch as theſe, and the former contrary operations hath it upon the body of man.

Now note that although its operations are thus contrary, and the cures effected thereby, of ſo contrary natures, yet this is no other than what conſiſts with, and conduceth to the preſervation of nature, for if by its aſtriction any retention is cauſed, yet nothing is retained, but what ſhould not be evacuated, and if by its laxating, evacuation is promoted, yet nothing is evacuated that ſhould be retained. It dries nothing but what it finds too moiſt, and flaccid, and ſo on the contrary, and it heats nothing, but what before was too cold, and ſo on the contrary alſo. I ſpeak now as to the generality of its operating, and do not deny but there may accidentally ſomething happen contrary to general obſervations. But as for moſt exceptions that are, or can be made, either they may eaſily be anſwered, or any accidental and caſual prejudice be eaſily prevented, and the credit of the Spaw maintained. If any ſhall object and ſay by its coldneſs and moiſture it weakens the liver more than by its heat and dryneſs it corroborates it, and there-

by occasioneth a dropsy, where before was none, and where it finds it, increaseth it. To this I answer, *viz.* if the body be well prepared first, and the Water pass freely, and other such directions and cautions observed as should be, and I have prescribed in the following chapter, it doth not only prevent, but cure the dropsy by heating, drying, and corroborating the liver.

And if any shall object that it astringeth and bindeth the bodies of some, so much that there is no ejection of their excrements by stool for two or three days together, I answer that it is true, this may happen sometimes, and it may be oftentimes by reason that those humours which should irritate the bowels to expel and eject their excremens are diverted through the ureters, by which means also the bowels become more dry, and dull, but yet this inconveniency may easily be remedied, and prevented, by taking every night at bed-time a little Cassia, or some such lenient medicament, and sometimes a glister, or suppositorie.

Many such like observations, and exceptions may be made against mine aforesaid positions, but they may as easily be answered as made.

Now the manifold virtues, and various operations of this Spaw (as effecting cures of a contrary nature) being premised, it will I hope, be easy to conclude, what distempers, symptons and diseases it is effectual against.

It allays all acid, gnawing, and hot humours, and cures all ſuch ſymptoms as proceed from thence, as Agues, Conſumptions, Quincies, Tumours, Impoſtumes, Ulcers, Wounds; it ſtops Bleeding, the over flowing of Choler, the Diſſentary, and ſuch like Fluxes.

It corroborates the brain, nerves, &c. and prevents or cures the Apoplexy, Epilepſy, Pally, Virtigo, iveterate Head-Ach, and Madneſs, and all ſuch ſymptoms as proceed from the weakneſs, coldneſs, heat, drineſs, or moiſture of the ſame.

It corroborates the ſtomach, and cauſeth good digeſtion, conſumes crudities which are the cauſes of obſtructions, and breed ill blood and infirm fleſh or an ill habit of body; it maketh the fat lean, and the lean fleſhy, cureſh, and preventeth the Cholic, and Worms.

It ſtrengtheneth and openeth the lungs, liver, ſpleen, meſſentary, and cureth difficulty of breathing, the Aſthma, the Dropſy, melancholy and fearful Paſſions, Hypochondriacal Wind and Vapours, (offending the head and heart,) which moſt women and many men are afflicted withall. It doth alſo upon this account cheer the heart, cure and prevent the palpitations, and paſſions thereof, as alſo all faintings.

It purifieth the blood, cures the Scurvy, even thoſe whoſe teeth are ready to drop out of their

heads, by reaſon of the extremity thereof, alſo the foul Venereal Diſeaſe, the Leproſy, Jaundice, yellow and black, and for the more perfect effecting of theſe cures, it doth in many open the Hemorhoids.

It provoketh urine, and cureth the ſuppreſſion and allays the ſharpneſs thereof, it diminiſheth the ſtone in the bladder, by diſſolving the ſoft ſuperficial part thereof, and evacuating that mucus ſlimy water in which it is involved, and by this means alſo it prepares it for cutting, for ſometimes this ſtone cannot be felt, by reaſon of that ſlimy mucus, which mucus itſelf doth alſo ſometimes by its torments counterfeit the ſtone, where it is collected in a great quantity, being of an acid, tartarous nature. It forceth out from the kidnies and bladder, abundance of ſand, and ſmall ſtones to a great number, and ſometimes ſuch as are as big, and as long, as long pepper. And as it cures all Ulcers, and Wounds in the body, ſo eſpecially and much ſooner in the reins and bladder, ſuppreſſing alſo the piſſing of blood, and the Gonorrhea.

It cures the Gout, Achs, Cramps, Convulſion in what part of the body ſoever, and giveth great eaſe.

It openeth all obſtructions, and ſuppreſſeth all manner of over-flowings in women, ſtrengtheneth the womb, cureth the mother, maketh the barren fruitful, and is a great preventative againſt miſcarryings, and rectifies moſt infirmities of the womb.

It

It is alſo uſed by way of inſeſſion in griefs of the womb, and by way of injection, into that as alſo into the bowels and bladder, where all the qualities act immediately upon thoſe parts, allay the ſharp and hot diſtempers, mitigate the pains thereof, healing and corroborating the ſame.

It may moreover be uſed by way of fomentation, and lotion in external wounds, Ulcers, Itch, or Scabs, and being dropt into ſore eyes wonderfully cooleth, drieth, and cleareth the ſame.

In a word, if any intenſions in a medicinal way be to be performed by allaying diſtempers, opening obſtructions, evacuating ſuperfluous morbific humours. and corroborating all the parts of the body, thoſe are effected in a very good meaſure, if not fully and perfectly by this Water. And I my ſelf have ſeen many of the aforenamed diſeaſes cured by the help thereof, and for other cures effected thereby, I have been aſſured by them themſelves who have received the benefit, or by others who have been eye witneſſes of the ſame.

Some who demand whether this Water may be adminiſtered to Children, Old Men, and Women great with child.

Anſwer. 1. As to the firſt, although the heat of children be ſoon deſtroyed by cold, yet this Water may ſafely be given to children of a year old, if the Water which they drink exceed not the ſtrength of their ſtomach, or if their ſtomach can bear

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it. And *H. ab Heers* ſaith, he ſaw a ſucking child drink of the *German* Spaw with good ſucceſs, and ſome children very young have taken of ours, not without benefit.

2. As to the ſecond, it is true that their heat alſo is very little, and ſoon extinguiſhed by cold, yet if the ſtrength of their ſtomachs be able to carry it off, without a manifeſt dejection of the appetite, it may ſafely be adminiſtered to them alſo, but not in ſo large a quantity as to others.

3. And as to the third, it is true it is diuretical, and may ſeem dangerous for them to take it, yet it hath been obſerved, that many have taken it ſecurely enough, ſome when they have been very young with child, and others, when near the time of their bringing forth. I ſhall not give too much liberty, neither ſhall I lay too great a reſtraint upon them, only I ſay, it is ſafeſt for them to take it in the fourth, fifth, and ſixth month, and *Hippocrates* himſelf will admit of purgation at that time. But if any be very deſirous to take it before, or after, by reaſon of ſome griefs urging them thereto, let them uſe it cautiouſly and in leſs quantity, and withall take ſomething every night to prevent the inconveniencies thereof, as Pearl, Coral, powder of Hartſhorn, or the like.

Queſtion. It may be demanded, whence it is that the excrements upon the taking of this Water become black?

Anſwer.

Answer. THIS blackness is not from the mixture of black melancholy humours, as many will have it, for if the soundest, healthiest body in the world, who can in no wise be suspected to have any adust black choler in him, his excrements will also be tinged black therewith. Besides, we do not find that one man's body in twenty, that are dissected, have any such black humours in it, nay, although he were the most melancholy man in the world, and therefore to impute it to a mixture of this, is a great error.

CHAP. IV.

Of some general directions to be observed before, in the time of, and after the taking of the Waters.

THERE are seldom any distempers, or diseases that occasion people to go to the Spaw, that are without peccant, excrementitious, obstructing humours, which must of necessity be removed before the drinking of the Waters attempted; and that either because those crude, gross humours in the greater vessels will be by the force of the Waters carried down into the narrower passages, and there cause greater obstructions, and by consequence Fevers, Dropsies, Gripings, *&c.* and also hinder the free passage of the Waters, to the endangering of many unthought of inconveniencies and symptoms; as also because nature, being

being thereby disburthened of the load of grosser humours, will be the better able, with the assistance of the Waters, to overcome, digest, and evacuate the thinner, and those that are left behind, and the sooner recover its natural vigour and sanitute.

Now for the Medicines to be administered, they must be elected suitable to the humour offending, and proportioned to the strength and constitution of the patient. I do in most cases very much approve of vomits, because they do effectually cleanse the stomach, and the *primas vias*; and instead of them, where they cannot be safely and conveniently used, *hiera picra* comes next in place for absterging, and cleansing the stomach, bowels, messentery, and making free passage for the Water to pass to the liver. And after either of these, some proper lenitive for the opening the passages through the liver, ureters, kidnies and into the bladder.

Phlebotomy also, or letting of blood is in many cases to be considered of, *viz.* if the veins and other adjacent vessels be oppressed with blood, or any peccant humours, for thereby they will be made more fit for the Waters to pass through them, and the virtues thereof into them.

Also in case of very obstinate obstructions, I advise that a chalybiate course of physic be run through for a certain time, that thereby the Waters may with the less resistance act their parts, and sooner, easier, and more perfectly effect the intended cures.

Now

Now after ſuch preparation is made, and the patient come to the Spaw, let him alſo then take ſome eaſy vomit of Oxymel, or wine of Squils, or the like, or ſome *hiera piera*, the firſt day after he is come thither, and the next morning after that, ſome lenitive, as Lenitive Electuary, Caſſia, Manna, Tamarines, infuſion of Sena, Rhubarb, ſyrup of Roſes, or the like, according to the humour that is to be evacuated, and then let him chearfully, and confidently begin to drink theſe Waters with a reſolvedneſs to obſerve all ſuch rational directions, as he ſhall find in this, and the next enſuing Chapters preſcribed. But for poor people, or they that loath all that bears the name of phyſic, drink three or four mornings of the Sulphur-well, for that will in a good meaſure effect the ſame.

When any one is reſolved for the Spaw, let him then firſt apply himſelf to ſome experienced Phyſician, who ſhall be able to underſtand his conſtitution, diſtemper, and the nature, and uſe of the Waters themſelves, that accordingly, as cauſe ſhall require, the more ſucceſsful preparatives may be adminiſtred, and the more effectual directions given. This I adviſe the rather, becauſe there be divers Phyſicians in the nation, who never ſaw, taſted, ſcarce read of the Waters, or converſed with thoſe that know them, yet ſend their patients, ſuch as they count incurable, and deſperate, thither, giveing them ſuch directions for the drinking the Waters as the very Spaw-women themſelves laugh at.

A DUE preparation being premised, let him that drinks the Waters begin with four, or five, or six half pint glasses, more or less as his stomach can well bear, and so by degrees proceed to two or three glasses more every day until he come to the height, and his full dose, which will be when he can take no more, without a manifest oppression and nauseousness. ~~Some will drink [illegible] this [illegible] these glasses in a morning, and some cannot take half [illegible]~~ The above was the Bath 8 Spaw drinkers but 3 glasses at morn 3 at 1 & 1.5 afternoon is sufficient for most Constitutions

IN the morning before the Water be drunk, let first all excrements be evacuated, either by nature, or art, as by glysters, suppositories, or some pills, or lenitive taken the night before at bed-time; for the retaining of the excrements hinders the concoction of the Waters (if I may call it a concoction) and by consequence their passage through the body, whereby are caused pressures, fluctuations, tensions, gripings, and sometimes cold sweat.

BETWIXT every two, or three, or four, or five glasses, let some exercise be used, of which more largely in the Chapter of exercise, And for the better passing of the Waters comforting the stomach, and preventing of nauseousness, let some good cordial, stomachical spices, seeds, and roots, be taken betwixt while, as Anniseed, Carroway and Coriander confects, Citron, or Lemon peel, candied, or dried, Pepper lozenges, Cardamums, but above all I prefer Elecampane root candied,

or

or for want thereof Angelica root, or ſeed, for they, eſpecially Elecampane, as the Lord *Virulam* ſaith, breed a robuſt heat, and I am ſure promote the paſſage of the Water moſt eminently, and comfort all the veſſels through which the Water paſſeth, and withall make the Water more effectual for the opening of obſtructions, and corroborating infirm parts.

I APPROVE not of taking the Waters too faſt, or alloting too ſhort a time for the drinking of the full doſe, or proportion. I conceive that for the generality it will be moſt convenient for to take at firſt a quarter of the proportion, and then exerciſe half an hour, and then an other quarter, and exerciſe till the Water begins to be evacuated, and then a third quarter, with exerciſe half an hour more, and then the laſt part with exerciſe, till it be all paſſed out of the body. But if any cannot bear the drinking of a fourth part at a time, then let them take the eighth part, with a quarter of an hour's exerciſe betwixt every while. To drink the Waters too faſt cauſeth for the moſt part nauſeouſneſs, oppreſſeth the natural heat, and compreſſeth the paſſages and veſſels, that the Water cannot paſs ſo freely through them as otherwiſe it would do, and alſo cauſeth divers ſymptoms, as tenſions, gripings, cold ſweats, dejections of appetite, and the like. If a great quantity of Water be caſt upon a fire at once it extinguiſheth it, but if by degrees, it maketh it burn the more furiouſly, and intends the flame thereof. *Ryetius* is therefore, in my judgment, very erroneous, as to this point,

who

who would have the whole proportion be taken in half an hour's time.

The time for the continuing the taking of the Waters must be proportioned according to the greatness of the disease, and profit received by it. In case any one after a due preparation, and upon a careful observation of such directions as are required, shall not be able to bear the Waters, and drink them without a manifest and eminent oppression, and nauseousness after several assays, let him cease presently from the taking of them; but if upon the taking of them, he can take them without any such inconveniency as should cause him to desist, and yet percieve no benefit thereby; let him not presently give over the use of them, as despairing of any further benefit, but continue the use of them a month, or two, or longer, if the disease require it. In *Germany* they drink of the Spaw, not only a quarter of a year together, but sometimes half a year, and sometimes a whole year if it be requisite, and at last they receive the benefit thereof, by being cured of most desperate diseases, which otherwise were in the vulgar account incurable. It is a great error amongst us *English*, to allot but two or three weeks time, or a month at the most, for the taking of the Spaw, let the disease be what it will, and hence it is, that many miss of those happy cures, which by a longer continuance might have been effected, and this to the prolonging of their own misery, and defamation of the Spaw it self.

I DO

I DO admit of the uſe of purging phyſic, to be taken every eight, or tenth day, for the evacuating of crudities, which for the moſt part are bred in that time, and alſo ſome groſſer humour looſened by the Water, or thoſe which become craſs, or thick by the Waters themſelves, carrying away the thinner part firſt; for theſe remaining in the body, would elſe be carried down into the ſmaller veſſels, and cauſe obſtructions, and thereby many other great inconveniencies and ſymptoms, retarding alſo, if not utterly preventing the intended cure. Now the medicaments I approve of moſt in theſe caſes, are *Hiera picra ſimplex Galeni*, Rhubarb with Cryſtal of Tartar, and ſuch like, to be taken one or two days together, as there ſhall be occaſion, and ſome lenitive, as Caſſia, or Lenetive Electuary, or the like to be taken the next day after that, for the moiſtening of the bowels, and the better preparing the paſſages betwixt the ſtomach and bladder, againſt the next repeating the uſe of the Waters, which I adviſe may begin the next morning after. And in ſome caſes phyſic may be taken every day, nay, mixt with the Waters themſelves, as in *Germany*.

NOW I know it is a common, though abſurd opinion, that phyſic is very prejudicial to thoſe that take it, whilſt they are in a courſe of drinking the Waters, and therefore is moſt irrationally decried. Now the chief ground of this error, as far as ever I could underſtand is this, *viz.* Some certain years ſince, ſome famous Doctors attending

upon persons of great quality, their patients, to the Spaw, did prescribe them the use of some physic, with the Waters, and it succeeded ill. This might be true, but what then? might not those physicians, though otherwise knowing enough, be ignorant of the right use of the Waters themselves, and of the preparations requisite for the taking of them with success? or might not they be willing to bring the Spaw out of credit, because it might happily cure their patients too soon, and thereby be prejudicial to them? or might not their patients be unwilling to drink the Water regularly; or disorder themselves in respect of diet, exercise, and the like? now whether any of these, or all these might be the cause of the aforesaid unsuccessfulness I cannot determine; only this I know, that the use of physic is not only not unsafe, but very necessary in the use of the Waters, nay, and in many cases to be mixed with the Waters themselves, as in the next chapter I shall more particularly give you to understand.

THREE or four days before giving over the Waters, they must be abated by degrees, as at the beginning increased by degrees.

AFTER the ending of the Waters, immediately, even before you return from thence, some such purging physic will be necessary as may evacuate all the Waters that shall remain secretly in the body, as oftentimes it doth, and withall comfort and strengthen the stomach and liver, and moisten the bowels if there be any fever, of too

great

great aſtriction of body afterwards. Alſo a very ſpare diet will be very neceſſary for a month after, for by this means nature will become maſter of the bodily infirmities, all crudities being removed and prevented.

CHAP. V.

Of particular directions and cautions, in particular caſes, and of preventing and curing ſuch accidents and ſymptoms, which ſometimes happen in the taking of the Waters.

THEY that have a very good digeſtion may in the afternoon about five, or ſix hours after dinner, take half the quantity which they did in the morning, but with this caution, that they eat a very light ſupper after it; and as for thoſe that have a very bad concoction, let them altogether forbear in the afternoon, or at moſt drink but a glaſs for the deluting, and better diſtributing of the chyle, if already perfected.

IF any ſhall drink of the water for the curing of an ague, let them ſo obſerve the time for the taking of it, that it may be all paſſed through them before the coming of the fit, becauſe otherwiſe nature will be diſtracted in her motions, *viz.* evacuating the Water by urine, and the morbific humour by ſweat. And as for thoſe that have a continual

tinual fever, let them forbear it altogether, unless the humours be concocted and fit for evacuation, either by sweat or urine, as I have elsewhere declared concerning the taking of cold water inwardly, in case of a fever.

My advice is that they that have very weak and cold stomachs, should take the Water a little warm'd first, (*i. e.*) the cold being just taken off. The truth is, the coldness of the Waters doth very little good at all, unless it be to allay a very great heat, and drought. So great a quantity thereof as is usually taken cold, must of necessity diminish the natural heat in cold constitutions. A glass of cold water cast upon a fire, though but small, may make it burn the more strongly, but if ten or twenty be cast upon it, they, if they do not quite extinguish it, yet will so far check it, that it will a long time labour under the destructive contrariety thereof. And actual heat is far more suitable to nature, and if so be the vertue of the Water is not diminished thereby, (as it is not, as I have demonstrated by the second experiment in the foregoing Chapter) far more effectual, the potential heat thereof being sooner reduced into act without any checking, or oppressing the natural heat. The stomach being a nervous part, and of exquisite sense, must needs be offended with that which is actually cold. This made the ancient *Grecians* and *Romans* drink most of their water and wine hot, as we find in *Salmuth's* collections. The Lord *Virulam* wonders that *calidum bibere* is so much grown out of use. If to drink

drink an ordinary quantity of drink cold, were not approved of by the ancients, with what face ſhall I commend the taking of gallons of cold water every morning for certain weeks together? I do therefore ſeriouſly adviſe thoſe that have cold and effeminate ſtomachs to take off the cold from the Water before they drink it.

If upon the taking of the Water, it paſs not through the body freely, but is retained, it is to be conſidered in what place of the body it is at a ſtand, that accordingly ſome appropriated means may be adminiſtred for the evacuation of it. For if it be retained in the belly, or hypochondries (which will appear by its rumbling, wind, tenſion, and oppreſſure) a glyſter will evacuate it; if in the ſtomach, which appears by a diſpoſition to vomit, *hiera picra*, or *rhubarb* will be convenient for the opening, and cleanſing thereof and making free paſſage for it from thence. If it be retained in the habit of the body and veins, which appears by oppreſſure, and a chilneſs over the body, without the aforeſaid rumbling, tenſion, wind, &c. I approve of *hiera picra*, *jollap*, *Mechoacan*, or the the like hydragogal medicaments.

They, that when they have taken the Waters, cannot evacuate them for want of exerciſe, as being too feeble to ſtir much, or walk, and not having the conveniencies of horſes, may either drink all their proportion of Water in the bed, or take ſome part at the Well, and then go to bed, and there take the reſidue. I have oftentimes obſerved that the

the Water would freely pass through many, when they were in bed, but would not otherwise, and the reason of it was as I conceived, because the passages of their body were contracted by going into the air, but more open by the warmth of the bed.

Now for the rendering the Water more effectual, it will be necessary, as is the course in *Italy*, to make use of some specifics with the drinking of it. *H. ab Heers*, allows of the decoction of Sanicle, Pimpernel, Scabions, &c. to be drunk in case of Spitting Blood, inward Impostumes, Wounds, Ulcers, and infirmities of the breast, and lungs, the benefit whereof he experienced by many years practice. And why may not we do the like in several cases, as to allow of a spoonful, or two of the juice of Sassafras, or the like to be taken in the first glass, in case of the Stone, or Gravel, or to take Turpentine pills, or a bole with Turpentine and Cassia the night before, and in case of very great obstructions, Dropsy, and cold moist Stomachs, or the like, to mix some Sugar of Steel, or Steel Wine with the first glass? But note that in such cases, they are to be taken half an hour, or a whole hour, before the taking of any more of the Water.

For the better passing of the Waters, let the first glass be mixed with Sugar Syrup of Liquorice, or *de quinque Radicibus*, or Nitre, or Spirit of Salt, or Vitriol, Salt of Tartar, or a glass of White Wine, in the midst of the Water, or mixed with three, or four of the first glasses, or two or three glasses of the Sulphur-Well in the midst of the

Spaw-

Spaw-Water, or a good draught of the decoction of Fennel, or Parsley-roots, be taken half an hour before the Water. Note that some of the aforesaid things are penetrative and so force their way, and some are sweet, and therefore are sooner attracted to, and by the liver, and so the more speedily evacuated.

In case of the necessity of any of the aforesaid mixtures, it will be convenient and necessary, that some experienced Physician be first consulted withall. And if you meet with none at the Spaw, that you can confide in, *York*, and other places are not far, where you shall find such Gentlemen that are able to advise you, as concerning this, so also in any other case, and especially if any unexpected accident should fall out whilst you are drinking the Waters.

In case in the taking of the Waters, fumes, and vapours fly to the head, as oftentimes they do, even to inebriation, let none be disheartened thereat, for either they are the spirits of the Water themselves alone, which will do the head much good, or else there is a mixture of wind from the stomach; for when that is filled with Water, the wind that was in it must of necessity be forced up to the head, but there it continues but a very short time.

And as there is no necessity of preventing it, so neither can it be well prevented: but yet for some satisfaction, let Nutmeg, and Coriander-seed,

being

being beaten together into a groſs powder, be taken after every fourth part of the Water; for the grateful vapour thereof will alſo be carried up to the head, with the force of the other vapours from the ſtomach, and withal ſomewhat corroborate, and cloſe the mouth of the ſtomach.

Queſtion. It may be demanded whether or no the redneſs, and hot pimples of the face may be cured by the indward uſe of this Water, and it is the more queſtioned, becauſe it dries and heats the liver.

Anſwer. It is true, that for the moſt part the redneſs of the face is increaſed by the uſe of this Water, but yet, notwithſtanding, it may in great meaſure be cured with the help thereof, with the obſerving of certain rules, and cautions which do much conduce thereto. The patient that is thus affected (his body being well prepared by medicaments, and phlebotomy) muſt in the firſt place drink of this Water, ten or twelve mornings together, for by this time it will in ſome conſiderable meaſure remove thoſe obſtructions of the meſſentery and liver, which are the chiefeſt cauſe of the aforeſaid diſtemper, then let him be purged with ſome cooling lenetive, and then becauſe the continual uſe of the Water ſhould not, as doth ſteel, heat the blood too much, or rather by its ſtrengthening the inward parts, drive outwardly the heated corrupt humours of the body too faſt, I adviſe that he do for ſeven or eight days together, drink clarified whey, made with cooling, moiſt,

and

and diuretical herbs and medicaments, as Borage, Lettice, Seangreen, Endive, Graſſroots, Parſley, and Fennel-roots, Nitre, Tamarinds, Liquorice, and ſuch like, and withal have a vein breathed, if nothing contradict it, and then return again to the uſe of the Water for another fortnight, and after that again to cooling purges and the cooling, and clarified whey, as before, for a month's time. Note that withal, that ſome topical medecines are to be applied to the place affected, as oil of the yolks of Eggs, oil of Tartar, juice of Lemon and Salt, *ungentum album*, but above all *flores ſulphuris* diſſolved in oil, or the like. By ſuch kind of means with the uſe of the Spaw-Water, I would undertake to cure almoſt any red *red pimpled face whatſoever*.

CHAP. VI.

Of the neceſſity, and manner of exerciſe, in the uſe of the Waters.

EXERCISE is, whilſt the Water is in the body, very neceſſary, as being good to laxate the paſſages of the body, to excite the natural heat, for the better digeſtion of the Waters (if as I ſaid before, we may properly call it digeſtion) for by this means, ſaith *Archigenes*, as alſo *Aetius*, the internal veſſels being heated will more ſtrongly attract, and expel. Some kind of exerciſe is, if ſtrength permit, to be continued from the firſt glaſs

glaſs to the evacuation of the whole proportion taken.

Now for exerciſe in particular, riding on a trotting horſe, or in a coach, are the beſt, becauſe thereby the muſcles of the abdomen being preſſed, do intend the expulſive faculty of the ureters and bladder. And where thoſe cannot conveniently be had, and uſed, I commend walking, bowling, pitching of the bar, and leaping, and the like, all which muſt be uſed ſo moderately as not to provoke ſweat, for by ſweat the Water will be drawn into the habit of the body, to the endangering of a Dropſy and ſuch like ſymptoms. They that are not able to walk, nor have the accommodation for riding, muſt take the Waters in their bed, for the warmth of the bed doth, as I ſaid before, ſerve very well inſtead of exerciſe, and anſwers to the intentions thereof.

Sleep is very hurtful, becauſe in ſleep all excretions, or evacuations, except ſweat, which is thereby promoted, and for the aforeſaid reaſons to be prevented, are ſuppreſſed.

Sitting on the ground is hurtful, and alſo ſtanding in the ſun, and walking late in the evening.

CHAP.

CHAP. VII.

Of the time of the year, and day when the Spaw is chiefly to be taken.

IN frosty weather the Water is strongest, because the mineral spirits thereof are by the binding of the earth suppressed and prevented from evaporating through the superfices thereof (as they do at other times) by which means the Water becomes the more strongly impregnated therewith, But by reason of the inconveniency of journying, and of the uncertainty of the frost, I prefer the Summer, *viz.* from the beginning of *May* to the end of *September*, and before and after, if the season be dry.

Objection. Some may object against the use of the Spaw in the Canicular, or Dog-days, because, say they, *Hippocrates* in the fifth of his fourth book of *Aphorisms* forbids purgations, and evacuations, and these being forbidden, say they, how shall we prepare our bodies for the taking of the Waters.

Answer. This aphorism having been these many years grosly mistaken, hath been the occasion of the deaths of thousands, I say mistaken, because purgations are not here at all forbidden, but only intimation given, that in that season, by reason of that usual extremity of heat, the humours being

ing drawn outwardly towards the habit of the body, are not ſo eaſily retracted, and evacuated by way of purgation, as being more remote from the medicament, aad alſo in a contrary motion. Beſides, who is ignorant of the great difference betwixt the climate *Hippocrates* lived in, and ours, as alſo betwixt his medicine and ours, which are both far milder and temperate than his? And who doth not know (being the ſame alſo which, *Heurnius* ſaith of the ſeaſons of his country) that *May* and *June* prove oftentimes far hotter months then *July* and *Auguſt?* It is needleſs to enter upon any long confutation of the vulgar opinion, which is weakly grounded upon the ſaid aphoriſm, and hath a long time been abſurdly maintained, and the rather, becauſe it begins to be generally exploded: And indeed, it is good for men to grow wiſe by others harms.

In extreme wet weather the Water becomes far weaker than before, and the reaſon is, becauſe the rain, although it doth not uſually ſink above ten feet deep, yet may into ſome of the veins of the ſaid ſpring, which lie towards the ſuperfices of the earth. In ſuch a ſeaſon the Water may beſt be omitted, (as having but little, or no ſtrength, at moſt, not enough to qualify the coldneſs, and moiſture thereof) unleſs it be corrected and amended with Sugar of Iron, made out of the very mine of iron, or with ſpirit of Vitriol, for want of the other.

The fitteſt time in the morning, is betwixt ſix and ſeven of the clock, for thoſe that be of a

ſtrong

ſtrong digeſtion. But as for thoſe that are very ſick with a nauſeouſneſs in their ſtomachs, in caſe they riſe early, I adviſe that they lie longer in their beds, and ſleep for the better digeſtion of thoſe crudities, for otherwiſe they will be carried down with the water into the narrower paſſages, and cauſe great obſtructions, and the water thereby become more impaſſible.

As for the taking of the waters in the afternoon, I have occaſionally declared my judgment with the reaſons thereof,

CHAP. VIII.

Of the Diet to be obſerved by Spaw drinkers.

THE greateſt reaſon why many receive but little benefit, and ſome none by the Spaw, is, becauſe of their intemperancy in reſpect of diet. This Water for the moſt part begeteth a very great appetite, by reaſon whereof many forget themſelves at table, putting in more than nature can diſpoſe of, and hence are crudities, the nurſery of all diſeaſes; and it is true what *Galen* ſaith, affirming, that no man ſhall be vexed with ſickneſs that is not oppreſſed with crudities. And whence crudities, ſaith *Hippocrates*, but from fulneſs, affirming alſo, that to eat without fulneſs is the rule of health? He alſo ſaith, that what diſeaſes ſoever are cured by evacuation, are cauſed by repletion: and do not we ſee that all diſeaſes are cured by eva-

cuation, *viz.* vomitting, purging, bleeding, ſweat, and urine? When the Chylus is ill concocted, or rather corrupted, it paſſeth crude through the whole body, for the ſecond concoction doth not amend the firſt, nor the third the ſecond, ſo that hence of neceſſity great obſtructions, the occaſion of tenſions, gripings, all manner of hypochondrical diſtempers, ſtone, gravel, diſtemper of the head, heart, liver, ſtomach, bowels, limbs, and indeed of all parts. There is an Italian proverb, that he that will eat much, muſt eat little, that is, by eating little he ſhall live long and ſo eat much. A ſober diet, as it prevents, ſo alſo cures many infirmities and diſtempers, by diminiſhing crudities already bred, and reducing all the humours of the body to the government of nature.

Let ſuch diet be uſed, as may not hinder the effects of the Spaw, being of a good laudable nouriſhment, of eaſy digeſtion, and may freely paſs through the veſſels, ſerving for the diſtribution thereof. Let not the meat be dreſſed, or ſauced deliciouſly, ſo as to prolong appetite, beyond the ſatisfaction of natural hunger, and thirſt, thereby cauſing a greater quantity to be taken in, than otherwiſe would, or nature requires, or can digeſt. For the moſt part meat offends more by its quantity than quality.

In more particular manner I forbid all fleſh that is very ſalt, and fat, as bacon, pork, neatsfeet, tripes, tame ducks, geeſe, gizards of poultry, all ſalt fiſh, eels, and all things that come from milk

(except

(except butter, whey, milk, pottage, cheese-curds) also leeks, onions, parsnips, cabbage, muskmillions, and cucumbers.

Helmont forbids nothing, only excess saying, that Nature hates curiosities.

I COULD reckon up divers other things that I should forbid, but because they are never used at the Spaw, it will be needless to mention them.

I DISAPPROVE not of beef, if it hath been salted but a week, especially for those that love it.

I ALLOW for those whose blood and livers are hot, pears, appies, plumbs, cherries, rasp-berries, ripe goose-berries, and raw sallets, but with this caution, that they may be eaten a little before supper, and also sparingly, and one glass of white wine drank after them, for they do temper the blood, and promote the curing of the distemper thereof.

I FORBID much variety of meats, because of the unequalness of their concoction, and because nature is (although the palate be not) best satisfied with simplicity of diet. And excellently doth *Macrobius* discuss this point.

As for drinks, I commend beer, or ale, that is neither too small or too new. They, whose stomachs are very cold, may drink beer, or ale as strong as can be made, and also a glass or two of

ſack with a toaſt put into it, which they may eat; and theſe do much further, and help concoction.

I APPROVE of the drinking of pure, thin, well refined white and rheniſh wine, but not at meals, unleſs in a very little quantity, becauſe they are very diuretical and penetrative, carrying down with them to the liver, and through the narrow veſſels, the crude juice of the meat, before it be concocted, thereby endangering obſtructions; but let them be drunk a little before ſupper.

THE time of eating muſt be conſidered according to the paſſing of the Water through the body, for when the urine begins to change its colour, paſſing from white to a higher colour, then is it a ſign that the water is paſſed through, and then ſomething may be eaten and not before, unleſs when good part of the Water, although not all, hath paſſed through freely, and then ceaſed for an hour, or two, and then alſo it is time to eat ſomething, for it may be that nature hath diſpoſed of the reſidue that is left behind, and retained for ſome other uſes, as to moiſten ſome dry parts of the body, or the like.

THEY that are firſt ready to eat, may ſtay their ſtomachs, as we call it, with a meſs of broth, which commonly is there made very good, and then have ſo much good fellowſhip and civility to wait for their dinners till all the good company of the houſe be ready for the ſame.

LET

LET the ſupper be larger than the dinner, becauſe in the evening the ſtomach is leſs laxated, and languid, than at noon, and can therefore concoct a greater quantity of meat. Yet the ſupper muſt not be very large, neither greater than what the ſtomach can be well able perfectly to concoct before the next morning. Let it be ready at ſix at eaſt, if not ſeven hours after dinner.

I ADVISE that all, whether it be at dinner, or ſupper, that they leave with an appetite, and eat not half ſo much as the Spaw drinkers uſually do indulging their pallates, and gratiſying their ſtomachs according to the meaſure of their appetites, which many times is rather adventious, or preternatural, then natural.

I UTTERLY diſapprove of mixing of the Spaw Water, with either wine or beer, but yet I allow of the drinking of a glaſs of it ſelf at bed time, for the corroborating and cloſing of the mouth of the ſtomach, and ſuppreſſing of vapours, which would otherwiſe diſturb the brain from quiet ſleep.

CHAP. IX.

Of the Sulphur-well.

THIS is called the Sulphur-well, by reaſon of its ſulphurous odour, although beſides this, it has two other qualities, *viz.* ſaltneſs, and bitterneſs. I ſhall in the firſt place endeavour to prove,

prove, whence it contracts its ſaltneſs, and thereby I ſhall the better make to appear the cauſe of its ſtanch and bitterneſs. Now, becauſe the ſalt, which this Water yields upon evaporation, is of the ſame nature with, and cannot be diſtinguiſhed either in odour, or taſte (the ſtanch being loſt in the evaporation) from common black ſea-ſalt, I ſhall firſt declare what is the cauſe of the ſaltneſs of the ſea, which is no other than that of this Water. And firſt I ſhall ſhew what is not the cauſe of it, thereby conſulting the opinion of many ancient philoſophers and their followers.

1. The ſaltneſs of the ſea is not cauſed by the ſun's exhaling the ſweeter parts out of it, as was the opinion of *Ariſtotle*; for this ſuppoſeth that there was the ſame ſaltneſs in the ſea before, but was not, upon this account manifeſted, but this cannot be, for then, why are not other waters, as rivers, ponds, lakes, *&c.* made ſaltiſh alſo by the ſun's exhaling their ſweeter vapours.

2. The ſun doth not boil into the ſea, by the vehemency of its heat, that ſaline taſte, according to *Pliny*, being almoſt of the aforeſaid opinion, for then, why doth not the ſun work the ſame effect, upon a pond, or veſſel of water, on which it may work more vigorouſly, by heating more vehemently, *viz.* (becauſe it is reſiſted, by reaſon of the ſmall quantity of water in them) than on the ocean?

3. This

3. This ſaltneſs is not cauſed (as *Scaliger* would have it,) by rain, mixt with hot, dry, and terene exhalations; for the rain it ſelf would alſo then be ſaltiſh, which indeed is moſt ſweet, and if it were ſaltiſh, then why are not pits, rivers, *&c.* which are many times filled with rain-water, ſaltiſh likewiſe?

N o w the weakneſs of theſe opinions, *viz.* (the chiefeſt that have uſually been embraced) being detected, I ſhall ſhew from whence very probably this ſaltneſs of the ſea may proceed. We muſt therefore in the firſt place conſider that the ſea is not ſimply ſaltiſh, but ſaltiſh and bitter together, that is, it hath a taſte made up of bitterneſs, and ſaltneſs; for which cauſe, as ſaith our learned countryman Mr. *Lydyat*, in his *diſquiſitio Phyſioligica de origine fontium*, Chap. 9, *de ſalſedine maris*, the Latins gave theſe two names to it, *viz. Mare, quaſi amarum*, and *Salum, quaſi ſalſum*. And this *Ariſtotle* himſelf conſents to, giving the reaſon of theſe two taſtes in general, and of them in the ſea in particular, where he ſaith, that all kind of taſtes ariſe from a kind of terreneſs, more or leſs aduſt; but bitterneſs from a terreneſs, very much elaborated by a fiery heat in the burning bowels of the earth, and ſaltneſs, where that heat is ſomewhat remitted. If ſo, then let us conſider whether there be not abundance of terrene aduſtneſs in the bowels of the earth, and gulfs of the ſea where a bituminous fire is always burning, being fed by water and that whether

ther we may not probably conclude, and eſpecially becauſe bitumen is bitter, and very full of ſalt, that the burning of the bitumen together with the terreneſs therewith mixed in the gulfs of the ſea be not the cauſe of the ſaltneſs thereof. Moreover, that bitumen hath a great power to communicate to, and beget a bitter, and ſaltiſh taſte in water, isc onfirmed, by which Geographers write concerning the lake *Paleſtina*, which is bituminous; for the lake is ſo bitter, and ſaltiſh, that no fiſh can live therein; and it is called in ſacred writ the ſalt ſea. And Hiſtorians ſay of it, that if a man be caſt into it bound hand and foot, he cannot be drowned; and the reaſon of this is the ſaltneſs thereof, for we ſee that the waters bear the greater burden, by how much the ſalter they are, witneſs the difference betwixt the ſea, and freſh rivers, and our boiling of brine till an egg ſwim thereon, and will not ſink.

THIS being premiſed, it will be eaſy to conclude from whence the ſaltneſs, and bitterneſs of the Sulphur-well proceeds. And as for the ſtinking odour thereof, that I ſuppoſe is cauſed from the vapours of the burning bitumen, and aduſt terreneſs mixt therewith, which lie not far from the very head of the Well.

Objection. IF there be the ſame reaſon for the ſaltneſs of this Spring as there is for the ſea, then why is there not the ſame reaſon for the ſulphurous odour of the ſea as of this, and why doth not the

ſea

ſea receive, and retain the ſame odour as this doth?

Anſwer. I do not deny, but the ſame odour may be communicated to the ſea, as to this Water, together with the ſaltneſs thereof; but becauſe the ſaltneſs thereof was communicated to it by degrees, *viz.* from ſome certain gulfs of the ſea, ſo alſo this odour; for it cannot be rationally conceived, that the whole ſea received all its ſalt into it ſelf at one time after a natural way, and therefore being ſuch a great body muſt become ſaltiſh by little and little even inſenſibly. And accordingly the ſulphurous odour alſo is imparted to it inſenſibly, and although the ſaltneſs may continue by reaſon that the ſalt it ſelf is of a fixed ſubſtance, yet the odour being of a ſubtile volatile nature, is exhaled by the ſun, and ſo loſt. But now the caſe is far otherwiſe in the water of this Sulphur-well, for this is at once fully impregnated with the ſaid ſaltneſs and ſulphurous odour, and immediately paſſeth away through narrow channels, and veins of the earth, without vaniſhing of the odour (by means of the ſun, or otherwiſe) which it contracted from the bituminous vapours.

Objection. WHAT is the reaſon that ſeeing this Water hath paſſed lately through the bituminous burnings, as appears by its freſh odour of the ſame, ſhould be cold, and not hot, as hot Baths are?

Anſwer. 1. IT was the opinion of *Fallopius*, that ſuch kind of waters proceed from a remote fire,

but passing through narrow passages retain their full odour, and taste, (which cannot be vanished by the way any otherwise, than smoak through a chimney, or pipe) although by the length of its passage, it may lose its heat.

2. Though the fire be near to the superficies of the earth, where this water breaketh forth, yet it is very probable that the coldness thereof may proceed from a mixture of a cold spring before the breaking forth thereof. Neither let it seem strange to any, that cold springs and hot, may be so near together in the bowels of the earth; for just above the head of this Sulphur-well there arise two cold springs, which meet and run down within a few feet of the head of the same. And Mr. *Jones* in his treatise of *Buck-ston*'s Bath in *Derbyshire* saith, that the cold springs and hot springs are so near, that a man may put one finger in the cold, and another in the hot.

Having in some measure declared unto you the cause of this Sulphur-well, *viz.* of its saltness, bitterness, and sulphurous odour, I shall in the next place give an account of some experiments, and observations which I made, and they are these, *viz.*

1. If Silver be put into this Water, it is thereby tinged first yellow, and then black, but Gold is not at all discoloured thereby.

2. If

2. If this water be a little boiled, it looſeth its tinging property, and alſo ſtinking odour.

3. It coagulates milk, if it be boiled therewith.

4. The diſtilled Water thereof looſeth its odour, and doth not coagulate milk.

5. If the Water be boiled, it will ſtill coagulate milk, though it looſeth its odour.

6. Seven gallons yield by evaporation a pound of ſalt, which though at firſt black, I have made as white as ſnow.

7. This coagulates milk alſo.

8. This Water kills worms, and ſuch kind of creatures preſently if they be put therein.

9. I filled two vial glaſſes with this Water in wet weather, and ſtopt the one, but the other I left open. The Water in that which was ſtopt, within an hour or two, became white and thick; and within two or three days, depoſited a white ſediment, and the ſides of that glaſs were furred, the water in the other glaſs altered not.

10. I filled two vial glaſſes in fair weather whereof the one I ſtopt, but the other left open, the Water in neither of them turned colour any whit conſiderably, only a kind of a thin whitiſh matter,

matter, after two or three days fell to the bottom, the water continuing very clear. The Water of that glaſs which was ſtopt, retained its odour moſt.

II. A PINT of this Water weighs two ſcruples, *i. e.* forty grains more than a pint of common ſpring-water.

Note. That the reaſon of its tinging white metals is not from any bodily ſulphur, or bitumen mixt with it, (for the ſubſtance of them will not mix with water, but ſwim on it, as in the ſpring at *Pitchford* in *Shropſhire*, and in *Avernia*, in *France*, and in divers other places) but from the vapours, or the ſubtle attoms and effluvia's thereof, which are mixed with the water, and in boiling are evaporated.

THE reaſon of its coagulating property is from ſome occult acidity in the ſalt thereof, which to ſenſe is not perceptible, only by effect.

OUT of the ſalt is drawn a very good ſpirit of excellent virtue, as I ſhall declare in the next chapter.

BEFORE I conclude this chapter, it will be worth taking notice, that about 240 yards above the head of this Sulphur-well is a bog, of about twenty yards diameter, in which I digged a mineral kind of ſubſtance, like the ſinders of Iron, but almoſt rotten, being corroded with ſome acid ſpirits,

rits, of which that bog is full, as alſo other places. This mineral ſubſtance being caſt into the fire burns blue, and ſmells like ſulphur; It is in taſte like Vitriol, and out of it Vitriol may be drawn, nay, in time it will be almoſt all reſolved into Vitriol. For I waſhed it, and ſet it in a cellar for two or three days, and it was covered over with a white ſweetiſh Vitriol; which I diſſolved in water, and ſet the ſaid ſubſtance in a cellar again, and it contracted the like, and I did as before ſtill reiterating this work till it was almoſt all turned to Vitriol. In the ſaid bog I found three or four ſorts of water, *viz.* a ſulphur, and vitrioline, and of each two ſorts. This was done the laſt day of my abode there, and therefore I had not time to make any further ſearch, only ſome of that mineral ſubſtance I took with me, with which I tried the aforeſaid experiments. If any Gentleman would be pleaſed to expend ſome coſts in digging up this bog, and erecting ſome new wells there, he would prove an acceptable benefactor to his country, and it may be ſome new kind of water might be diſcovered hereby, having yet more vertues than any of the former.

Note, THAT the ſtink of this Sulphur-well is perceived a far off, eſpecially in moiſt and cold weather.

CHAP. X.

Of the vertues, and uſes of the Sulphur-well, together with directions and cautions for the taking of it.

THE uſe of this Water is either inward, or outward. It being taken inwardly incideth, abſtergeth, attenuates, and reſolves viſcous thick humours, and irritates every veſſel of the body, to expel whatſoever humours are offenſive in them. It openeth, and removes thoſe ſtrong and obſtinate obſtructions, whether in men, or women, that would not yield to any other medicine whatſoever. It doth oftentimes evacuate by ſtool great lumps of viſcous ſlimy matter, which was certainly, whilſt it was in the body, the cauſe of ſome great diſtemper, oppreſſure, gripings, tenſions, *&c.* and which could hardly any other way be removed.

IT heateth, and quickneth the ſtomach, bowels, liver, ſpleen, blood, veins, nerves, and indeed the whole body, in ſo much that it conſumes crudities, rectifieth all cold diſtempers in all parts of the body, cauſeth a good digeſtion, cures the Dropſy, Spleen, Scurvy, Green-ſickneſs, Gout, Cramp, Epilepſy, Head-ach, Vertigo, King's-evil, and all ſuch ſymptoms as proceed either from crudities, cold, viſcous, ſlimy, or corrupt humours, which obſtruct and diſtemper the ſtomach, bowels, meſſentery, liver, veins, brain, and nerves, and

theſe though of long continuance. It killeth worms infallibly.

Note, THAT this Water muſt be begun by degrees, and the full proportion be taken not at once, but at ſeveral times, exerciſe intermediating, as in taking the Spaw.

THE full doſe, or quantity to be taken muſt be proportioned according to the conſtitution and ſtrength of the party, and his bearing of it, as alſo the humour offending, the predominancy of the diſtemper, and the aptneſs of the body to be wrought upon. In cold, dull bodies more may be taken than otherwiſe may. In general, let the proportion to be taken, be ſuch, as may cauſe four, ſix, or ſeven ſtools, without any manifeſt inconveniency of the fewneſs, or multiplicity thereof.

Note, THAT in many bodies this Water works very quickly, and indeed too ſoon; and in ſuch a caſe my advice is, that two, or three glaſſes of the Spaw-water be firſt drunk, for that will ſomewhat impede the ſudden operations thereof, and cauſe it to continue longer in the body, for the better performing of its operation therein before it paſs through it.

Note alſo, THAT after the full proportion is taken, and in a good meaſure paſſed through the the body, four, or ſix glaſſes of the Spaw-water may be drunk for the prevention of the excoriation of the bowels, and fundament, eſpecially in hot choleric bodies.

THEY

THEY that cannot drink this Water by reaſon of its ſtinking odour, and yet ſtand in great need of the effects thereof, may boil it a little while, till it hath loſt its odour, and then drink of it, for although ſome vertue vaniſheth with the odour thereof, yet the greateſt and moſt effectual vertues which are in the ſalt, and aforeſaid ſubtle acidity thereof do yet continue as I have often tried; or if they pleaſe, put ſome ſalt thereof into the Spaw-water, and ſo drink it, for indeed, as I ſaid before, the chiefeſt vertue lies in the ſalt.

THE ſalt alſo thereof being rightly made, and put into any common ſpring-water, doth in good meaſure perform the ſame effects.

THE ſpirit of this ſalt is of excellent vertue, if a drop, or two thereof be put into every glaſs of the Spaw-water, for it makes it far more penetrative, and indeed far more effectual againſt all diſtempers, and diſeaſes, as the Dropſy, Gravel, Stone, and ſuppreſſion of Urine, &c.

I ADVISE, that they that have any inflammation, or excoriation in their bowels, abſtain altogether from the taking of this Water, becauſe it will inflame them more; alſo they that have ulcers, and inflammations in their kidnies, and bladder, and are troubled with a ſharpneſs of urine.

SUCH directions for exerciſe, and diet, as I have preſcribed for the Spaw-drinkers, I preſcribe

alſo

alſo to Sulphur-water-drinkers for the general; only this liberty I grant them, *viz.* that theſe may exerciſe leſs, and feed a little more liberally than Spaw-drinkers.

THIS Water uſed outwardly, diſſolves hard Tumours, cures old Ulcers, the Scab, the Itch, the Scurff, Leproſy, and all ſuch breakings out whatſoever, if the parts ill affected be waſhed, and bathed therewith, for it dries, conſumes all corrupt humours in the habit of the body, und prevents all putrefaction of the humours in the ſame.

IT being uſed by way of a warm Bath for the whole body, is of the ſame efficacy, as *Paracelſus* ſaith, that his *liquamen ſalis*, i. e. brine is of, and that is to conſume all humid diſtempers, whether hot, or cold, as the Dropſy, Gout, hard Tumours, ſwellings of the Legs, Leproſy, and the like, alſo it makes the fat lean, and reduceth them into a natural dry, firm, healthy habit of body.

I WISH there were more conveniencies, as fit veſſels for bathing, at this Well, than are, for I believe that after a time, Baths with this Water would grow more in uſe, and become as famous as thoſe hot Baths in *Somerſetſhire* for many uſes.

THE ſpirit of the ſalt rubbed into any parts ſwelled, or pained only, cures them preſently.

AND as the Waters themſelves are outwardly uſed for cleanſing, and healing, ſo alſo there is a kind

kind of ſlimy bituminous mud below the Sulphur-well, which will burn like Sulphur, and is of great efficacy for mollifying, digeſting, and reſolving hard tumours, and for corroborating weak infirm parts, and allaying of pains, and aches in the limbs, of what nature ſoever, being outwardly applied.

As I am ſilent in particularizing cures, yet one ſtrange cure I cannot but mention, *viz.* A certain youth came the laſt year to theſe Waters from the more remote northern parts, having on each finger a horn, covering the top thereof, and alſo a horny ſubſtance on his wriſts, and face, which with the inward, and outward uſe of this Sulphur-water did in a little time, being looſed thereby, all fall off.

CHAP. XI.

Of the Dropping, or Petrifying-well.

OVER againſt the caſtle of *Knareſbrough*, the river *Nide* running betwixt, ariſeth a certain ſpring, in the manner of other ſprings, in a high ground, which running a little way in an entire ſtream, is at the brow of a deſcent, by a dam of ragged ſtones, divided into ſeveral trickling branches, whereof ſome drop, and ſome ſtream down, partly over, and partly through a jetting rock, and this ſpring is of a petrifying nature, for of it was the rock, from which it diſtils, wholly made,

made, and is by it daily increaſed, notwithſtanding the cutting of great pieces from it. This water alſo generates ſtones where it falls, and likewiſe where it runs, but not all the way it runs, but near the place only where it fell, the reaſon of which I ſhall preſently ſhew.

If any ſtick, or piece of wood lie in it ſome weeks, it will be candied over with a ſtony whitiſh cruſt, the inward part of the wood continuing of the ſame nature as before. But any ſoft ſpungy ſubſtance, as moſs, leaves of trees, *&c.* into which the water can enter, will thereby, in time, become ſeemingly to be of a perfect ſtony nature, and hardneſs.

For the better underſtanding the true nature and cauſes of this Water, I made theſe two experiments.

1. I evaporated away the Water, and in the bottom was left a ſtony powder, very like to the powder of the ſtones of the rock.

2. A pint of it weighs ten grains heavier than a pint of common ſpring water.

The chief vertues of this Water are totally to allay acid, gnawing, and hot choleric humours, and to ſtop all fluxes proceeding from thence: It is alſo good againſt burſteneſs, piſſing of blood, all overflowings in women, and ſtrengthens the back.

They

THEY that take this Water, except in caſe of looſeneſs, muſt every other day take a glyſter, or ſome lenitive, as caſſia, mana, &c. every other night, in caſe it binds too much.

THIS Water in many caſes is better than the ſyrup of coral, and the powder of the rock, or rather the powder that remains upon evaporation may be uſed for coral.

THE proportion of the Water to be taken is from half a pint to half a gallon, according to the age, conſtitution, diſtemper, and place of the diſtemper.

THE quantity of the powder is from ten grains to a drachm, according to the aforeſaid conſiderations.

CHAP. XII.

Of St. Magnus's *Well.*

WHETHER *Magnus*, or *Mugnus* be the true and original name of this Well, I could never yet be aſcertained; it is uſually called by the latter. Now whether this well was ſainted from its real virtues, or only ſuppoſed virtues attributed to it, becauſe firſt ſainted, I will not ſtand now to diſpute, but I rather believe the former. Dr. *Dean*, will not have any greater virtues attributed to it, than

than to common ſprings, allowing it only a bare name, and title. It ſeems the Doctor was no *Roman* Catholick, or if he were St. *Mugnus*, muſt not be his interceſſor.

Now the reaſon why he will aſcribe no other than common virtues to this Water, is becauſe, as he ſaith, it hath no mineral virtues and faculties, I ſuppoſe he means perceptible. But to this, anſwer might eaſily be made, *viz.* that Waters oftentimes are impregnated with mineral virtues, and ſpirits too, although inſenſibly. Who would have thought that the dropping-well would have yielded a ſtony powder upon evaporation, and coagulate milk? Beſides if upon experiment nothing could be found perceptible to ſenſe in waters, muſt we always judge of things by ſenſe, and not ſometimes by effects?

In many mineral waters the ſubſtance of minerals, and metals is mixed, in other ſome the groſs perceptible vapours only, and in other ſome, the ſubtile inſenſible ſpirits, or rather atoms, and effluvia's. In this Well the laſt only, and they are the effluvia's of either lead or tin mines (as is the opinion of ſome Philoſophers, concerning ſuch kind of ſprings) which being mixed with the water, do not only give activity to its coldneſs (as do cold atoms of the northern wind to rain congealing it into ſnow, which will with much handling, heat the hands, and make them even to burn) but alſo a kind of fermenting nature to it, ſo that when the water hath a little entered into the pores of the

 body,

body, it causeth a kind of light fermentation amongst the humours, and by consequence stirs up a heat in the habit of the body, and withall draws out the natural heat into the same. And this is apparent, for if any one enter into this water to bathe, or wash himself, and abide there but a quarter of an hour, or little more, he will, as soon as he comes forth, presently become very hot (his body being all over red) and so continue a long time, although he walk in the cold air; nay, although he put not on his clothes.

NAY, many times tender women, who dare scarce wash their hands in cold water, will venture to go into it, although it be colder than ordinary water, with their linen about them, and when they be come forth, go to the next houses, and lie in their wet linen all night, and towards morning begin to sweat, and by this means are cured of many old aches, in what part of the body soever they are, and of swellings, and hard tumours and agues, and indeed many outward distempers and symptoms caused either by cold, or hot humours, the latter being cured by an actual coldness, *viz.* if it be a bare distemper of heat only, for which alteration only will be sufficient; the former by the heat of the body, being drawn outward and increased, whereby humours offending are digested, attenuated, and discussed, or evaporated by sweat. Also such distempers as are caused by too much chilness, and tenderness, are hereby recovered. And upon this account it is, that they that are very tender

der in their heads, and wear many caps, and ſubject to take cold upon every ſlight occaſion, are cured of this tenderneſs by waſhing their heads, two or three times in a day in cold water: for hereby the open pores, which let in the cold, and through which the natural heat did too much tranſpire, are cloſed and ſtopt.

Before any attempt the uſe of this cold bath, let them firſt conſult with ſome able phyſician.

This Well is ſquare, with a high wall about it, and a houſe adjoining to it, where people make themſelves ready for bathing, going immediately out of it into the bath.

This ſpring riſeth high about May, and falls low about September.

Now if any ſhall not approve of my hypotheſis, concerning the nature of this Well, let them tell me of one that is more rational, and I ſhall not be aſhamed to learn that, which I am convinced I did not know, or elſe let them embrace mine. The reaſon inducing me to declare this of mine is, becauſe I know it is the unanimous conſent of moſt ſound Philoſophers, that waters running through tin, lead, and ſilver mines, or minerals of a cold nature, may contract ſome imperceptible medicinal vertues from them (and therefore *H. ab Heers*, ond *Helmot* ſay, that many medicinal ſprings are called *fontes acidi*, from their effects, not ſenſible acid mineral taſte) and alſo becauſe I know that this

this country yields almoſt all manner of metals and minerals, which an expert artiſt, aſſiſted with a good purſe, would eaſily diſcover. I believe that many other ſprings of this nature might in that country, and other ſuch mineral countries be found out upon examination, and trial.

Now for the concluſion of all, let not any one judge me be to be a *Roman* Catholic by this my approbation of this ſainted Well, for I am none, and as none my ſelf, ſo neither do I hate thoſe that are, or thoſe of any other heterodox judgment whatſoever. Their living according to their own light, and within the bounds of civility, is a ſufficient ground for me to exerciſe good will and love towards them.

And as I do not out of any ſuperſtitious acount attribute any medicinal virtues to this ſainted Well, ſo neither do I do it out of any affectedneſs to contradict Dr. *Deane*'s judgment.

The reaſon of my vindication of it, is grounded upon ſome notable cures, which I have ſeen effected thereby. And the Doctor acknowledgeth, that it hath formerly been very much frequented by all ſorts of infirm people: if ſo, then certainly not without ſome cauſe.

Now if it were but their faith in the Water, and ſtrong imagination, (as ſome may ſay) that cured them, yet let them uſe this Water, or any lawful means elſe that may exalt their imagination, if that may promote their cures.

FINIS.